

ABSTRACT OF DISCLOSURE

The present invention relates to the step of plasticizing a thermoplastic resin material by rotatably driving a screw (20). Also included in the method is the step of injecting an inert gas into a screw cylinder (1) to permeate the melted resin and injecting the melted resin into a mold by driving the screw (20) in the direction of injection. Here, the inert gas has a pressure, at least in pressure, equal to or greater than a supercritical pressure or is under a supercritical state. To provide a thermoplastic resin foam by the method, electric servomotors (31, 32) are employed to drive the screw (20). After the step of plasticizing the resin material has been completed, brakes are applied to the electric servomotors (31, 32) to prevent the screw (20) from retreating. Alternatively, even after the step of plasticizing the resin material has been completed, the screw (20) is driven at low speeds in the direction of plasticization until immediately before the step of injecting the melted resin is initiated. This allows foaming inside the screw cylinder (1).